

REMARKS

Applicants respond to the Office Action mailed October 6, 2003 (the Office Action). In the Office Action, claims 1-17 are rejected and the drawings are objected to by the Office. Applicants respond to each portion of the Office Action in detail below.

The Office Action objects to the drawings as not showing a second lmod current source as claimed. Applicants submit that two lmod current sources are shown in an exemplary manner in Fig. 3. Current source 5 and current source 31 are both lmod current sources, such that one may be a first lmod current source and the other may be a second lmod current source. While this represents only one embodiment of the invention, it does show the claimed second lmod current source. Accordingly, Applicants submit that no change to the drawings is necessary, and request that the objection to the drawings not be renewed.

The Office Action rejects claims 1-17 as anticipated by Yoshimoto et al., U.S. Patent 4,689,795 (the '795 reference). The '795 reference concerns a semiconductor laser controller including a detecting and holding circuit. (See '795 reference Abstract). The Office Action states that the '795 patent feeds forward an Ibias current to an lmod current. The '795 reference does not teach feeding an Ibias current forward to an lmod current. Rather, the '795 reference discloses two independent, complicated circuits which are separately used to control the laser driver. Applicants pointed out that a complicated circuit using expensive peak detectors can be used to achieve this goal. (See Application, p. 3, lines 13-14.) Applicants provide a simple solution which does not require expensive and complicated circuits, such as peak detectors for example.

The first independent circuit of the '795 reference includes elements 4, 5 and 6. It uses the peak detecting circuit 4 to determine what the peak and bottom output is, and then provides an input of a bottom output voltage (from amplifier 6) to a clamping circuit 11 and laser driving circuit 12. (See '795 reference, col. 3, lines 6-11 and 30-34, and Fig. 2.) This does not allow for a current to be fed forward, yet the Office Action states it is inherent that a current is fed forward.

Similarly, the second independent circuit includes elements 7, 8, 9 and 10, with elements 7 and 10 constituting a detecting and holding circuit for the peak output of the laser diode, and 7, 8, 9 and 10 collectively feeding the peak output level (as a voltage) forward to clamping circuit 11 and laser driving circuit 12. (See '795 reference, col. 3, lines 11-27 and 34-41, and Fig. 2.) This also does not allow for a current to be fed forward, rather it allows for a detected optical amplitude (in the form of a voltage) to be fed forward.

Throughout the document, voltages are utilized for measurement, as inputs and outputs, and as indications of how the circuit performs. This leads to complicated operations on voltages involving division and subtraction, along with the complicated peak detector circuits. For example, an examination of the circuit of Figure 10 may be instructive.

Figure 10 is described as using a divider to implement subtraction of voltages (including the bottom voltage V_B), along with application of an inverse voltage to achieve the desired laser driving voltage. (See '795 reference, col. 8, lines 34-41.) Figure 10 is also described as a semiconductor driving circuit, suggesting it would substitute in as elements 11 and 12 in Figure 2. (See '795 reference, col. 2, lines 57-59.) While one

may expect that Figure 10 would substitute for element 12, the presence of the input from amplifier 6 (shown in Figure 2 as connected to element 11) suggests that Figure 10 provides for both the clamping circuit (11) and laser driver circuit (12). Moreover, Figure 10 does not illustrate an I_{mod} current source receiving current fed forward from an I_{bias} current source. In order for the '759 reference to disclose an I_{mod} current source receiving current from an I_{bias} current source, the clamping circuit (11) and laser driving circuit (12) would need to include the I_{mod} current source receiving current from an I_{bias} current source, and Figure 10 does not support this.

Applicants claim in claim 1:

1. A laser driver generating an I_{mod} current and an I_{bias} current, said laser driver characterized in that a portion of said I_{bias} current is fed forward to said I_{mod} current.

The '795 reference has not been shown to specifically include an I_{mod} current and an I_{bias} current, wherein a portion of the I_{bias} current is fed forward to the I_{mod} current. Moreover, the '795 reference requires peak detectors, as was mentioned in the discussion of previous solutions in the present application. The claims, when read in light of the specification of the present application, provide an invention which uses simpler technology than that disclosed in the '795 reference to achieve similar results. This simple solution feeds forward the bias current into the modulation current without using complicated and expensive peak detectors for example. Such simple solutions do not negative patentability, and they do provide potential advantages in terms of design complexity and manufacturability. As such, the '795 reference does not anticipate the claims, either claim 1 or the other claims of the application.

Applicants note that the Office Action sets forth a summary rejection of claim 1, without further details of rejections of dependent claims or other pending claims. Should a rejection from the Office Action be maintained, or new rejections be made, Applicants request a detailed rejection of every claim to allow for a more complete response. Moreover, a more detailed explanation of any rejections based on inherency is also requested.

Additionally, Applicants requested an interview to discuss the Office Action. No such interview occurred. Accordingly, as there is no information to provide in the record, Applicants are not submitting an interview summary.

Deposit Account Authorization and Petition for Extension of Time

Please charge any shortages and credit any overages to Deposit Account No. 50-2207. To the extent an Extension of Time is necessary and not already requested, including any extension of time for a returned check or check drawn on insufficient funds, Applicants hereby petition for such an Extension of Time. Please charge any corresponding fee for an Extension of Time to Deposit Account No. 50-2207.

Conclusion

Applicants believe that the pending claims are allowable. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set forth below.

Respectfully submitted,

DATE: March 8, 2004

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